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Durham, N. C.

63,113 Active Civil Pilots as of January 1, 1941

Certificated Pilots Increase 101.9 Percent Over January 1, 1940

Reflecting to a marked degree the sharp expansion in the Civilian Pilot Training Program during the calendar year 1940, the number of certificated pilots on January 1, 1941, rose to 63,113, an increase of 101.9 percent over the 31,264 pilots holding certificates a year before, according to figures compiled by the Civil Aeronautics Administration.

As of the first of this year, more than 21,000 preliminary students had completed C. P. T. instruction. Thus, the program accounted for about a third of the pilots who had been certificated at the end of 1940.

Aside from the effect of the flight training program, the statistics show that the number of certificated pilots on January 1, 1941, represented even more than the normal year-to-year increase. At the beginning of 1939, there were 22,983 certificated pilots, while at the beginning of 1938, the total was 17,681.

The compilation also shows that the number of certificated aircraft as of the first of this year increased substantially over the total of a year before. On January 1, 1941, 17,351 aircraft had been granted certificates, a 35.2-percent increase over the 12,829 certificated craft on January 1, 1940. The total on January 1, 1939, was 10,000, while on January 1, 1938, 9,152 were certificated.

Classified according to grades, the statistics show that on January 1, 1941, 47,673 pilots held private certificates; 9,616 held commercial certificates; 3,858 held solo certificates; 1,431 held airline

certificates; and 535 held limited commercial certificates.

On January 1, 1940, the classification was as follows: 13,452 private; 7,292 commercial; 8,335 solo; 1,197 airline; and 988 limited commercial.

There were 10,676 private, 6,834 commercial, 3,309 solo, 1,159 airline, and 1,035 limited commercial certificates on January 1, 1939, which compares with 8,604 private, 6,411 commercial, 631 solo, 1,064 airline, and 971 limited commercial on January 1, 1938.

Grouped by states, the figures show that California had the largest number

of certificated pilots at the beginning of this year, the 8,285 reported representing a gain of 59.5 percent over the 5,193 on January 1, 1940. New York came second in the state list with 4,863 and 2,636, respectively, an increase over the year of 84.5 percent. Texas came third with 3,918 on January 1, 1941, up 183.1 percent from the January 1, 1940, total of 1,384.

On a percentage basis, largest gain was shown in New Mexico, where the total for January 1, 1941, was 364 certificated pilots compared with 69 a year before, an increase of 427.5 percent. Another large percentage gain—386.3 percent—was reported for Arkansas, the totals for January 1, 1941, and January 1, 1940, respectively, reaching 603 and 124.

The table on page 96 shows certificated aircraft and pilots by states as of January 1, 1941:

See AIRCRAFT AND PILOTS, page 96

Additional U-H-F Installations Planned For Domestic Airways

First Range System To Begin Operation May 1

Commenting upon President Roosevelt's request to Congress for an appropriation of \$2,477,000 to permit the Civil Aeronautics Administration to install ultra-high-frequency radio ranges and radio landing systems at various points throughout the country, Col. Donald H. Connolly, Administrator of Civil Aeronautics, said that the ultra-high-frequency range was the result of development during the past 4 years by the Radio Technical Committee for Aeronautics, made up of representatives of the Army, Navy, Coast Guard, Federal Communications Commission,

Bureau of Standards, radio manufacturers, scientific institutions, C. A. A. and the air carriers.

He said that the first range system operating on these frequencies, which are remarkably static-free and free from any tendency to split into multiples, would be ready for scheduled airline use on May 1. Special equipment is being installed in the transport planes which will use this route on and after that date.

The New York-Chicago airway is the first link in what the C. A. A. technicians hope will be the eventual conversion of the entire 35,000 miles of Federal airways from intermediate frequencies in the 200-400 kilocycle band to ultra-high-

See U-H-F, page 97



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New Type Approvals

(Approval numbers and dates of assignment in parentheses)

Type Certificates

Aircraft

Stinson, 10A and 10B, 3 place closed land monoplane. Engine: (Model 10A) Franklin 4AC-199-E2 (Model 10B) Lycoming GO-145-C2. (738, 3-3-41.)

Propellers

Everel, 75-F-1, metal hub with wood blades, 6-foot 4-inch diameter, automatic pitch, 75-horsepower, 2,015 revolutions per minute. (762, 3-13-41.)

New Models Added To Old Type Approvals

(Approval numbers and dates of approval of new models in parentheses)

Engines

Air-cooled, Franklin 4AC-199-E4, 4-cylinder horizontal opposed air-cooled, 90-horsepower at 2,500 revolutions per minute at sea-level pressure altitude. Special equipment

Air Transportation

C. A. B. Issues Report On St. Louis Crash

The Civil Aeronautics Board has issued its report on the accident involving Trip 9 of American Airlines near Lambert-St. Louis Airport, St. Louis, Mo., on December 11. The accident resulted in injuries to two passengers and two crew members, while the remaining two passengers and the stewardess were not injured.

In its report, the Board stated that the probable cause of the accident "was the clearly incautious attempt by the pilot to land the airplane under circumstances unfavorable to a safe landing."

The report also stated that the Board had recommended to the Administrator of Civil Aeronautics that the weather letters of competency issued by him to air carriers be amended to provide that when a solid cloud cover prevails at an altitude of 800 feet or less and the horizontal visibility is officially reported to be less than 5 miles, the height of the ceiling shall be from the base of the lowest cloud form officially reported. The Board suggested that this recommendation be made effective and enforced until such time as additional studies indicated that other action of a more fundamental and permanent character should be taken. The Board has been advised by the Administrator that this recommendation has been carried into effect, the report concluded.

Board Approves Youngstown Service

By amendment of United Air Lines Transport Corporation's Route No. 1 and of Pennsylvania-Central Airlines' Route No. 14, the Civil Aeronautics Board has authorized air service for Youngstown, Ohio, by both carriers.

The Board stated that Youngstown, because of its industrial importance and business connections with various sections of the United States, should provide a substantial amount of air traffic and that the public interest would be served by granting the requests of both

includes two generators, vacuum pump, hydraulic pump, and electric starter. (Type Certificate No. 226, 3-11-41.)

Propellers

Sensenich, 90D, wood, 7-foot 6-inch diameter, 6-foot 10-inch pitch, 160-horsepower, 1975 revolutions per minute. (Approved Type Certificate No. 586, 3-11-41.)

AIRWORTHINESS CERTIFICATES (ONLY) FOR AIRCRAFT

Culver, LAR, 1 place closed land monoplane. Engine, Franklin 4AC-176-F3. (2-559, 3-3-41.)

applicants. Since, in the operation of their present services, both carriers fly almost directly over Youngstown, the cost to the Government in the form of additional mail compensation would be negligible. United's Route No. 1 would afford the city important trunk-line transcontinental service to New York, Chicago, and to west coast points, while Pennsylvania Central's Route No. 14 would connect it with Pittsburgh, Cleveland, Detroit, Washington, and other communities with which it has a close industrial relationship.

United's amended Route No. 1 will be: Between the co-terminal points New York, N. Y., and Newark, N. J., the intermediate points Philadelphia, Pa.; Allentown, Pa.; Youngstown, Ohio; Akron, Ohio; Cleveland, Ohio; Toledo, Ohio; Chicago, Ill.; Moline, Ill.; Iowa City, Iowa; Des Moines, Iowa; Omaha, Nebr.; Lincoln, Nebr.; Grand Island, Nebr.; North Platte, Nebr.; Denver, Colo.; Cheyenne, Wyo.; Rock Spring, Wyo.; Salt Lake City, Utah; Elko, Nev.; Sacramento, Calif.; and San Francisco, Calif.; and the terminal point Oakland, Calif.

Pennsylvania Central's amended route No. 14 will be: Between the terminal point Norfolk, Va., the intermediate points Washington, D. C.; Pittsburgh, Pa.; Youngstown, Ohio; Akron, Ohio; and Cleveland, Ohio, and the terminal point Detroit, Mich.

Statistical Summary

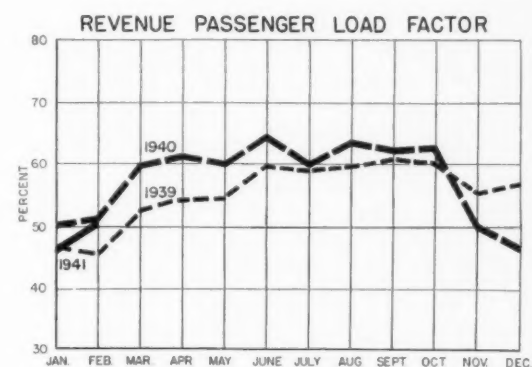
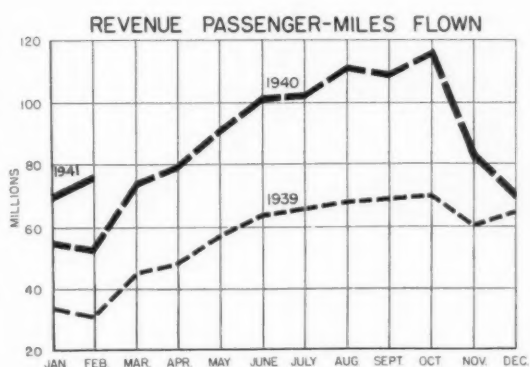
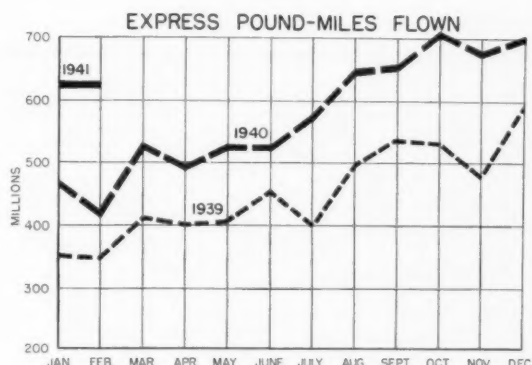
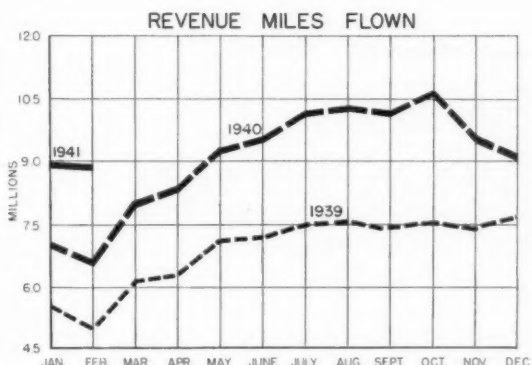


During February the 16 domestic scheduled air carriers flew 8,785,961 revenue miles and carried 196,924 revenue passengers, representing increases of 31.67 and 55.25 percent, respectively, over the results for the same month last year, according to traffic statistics compiled by the Civil Aeronautics Administration.

In the second month of this year, the air carriers flew 75,163,333 revenue-passenger miles, a gain of 41.74 percent over the total for February 1940; while express pound-miles flown aggregated 628,665,026, up 48.83 percent over the comparable 1940 month.

The revenue passenger load factor for February 1941 was 50.64 percent while the February 1940 figure was 51.36 percent.

Domestic Air-Carrier Traffic Statistics for 1939, 1940, and the First 2 Months of 1941



Domestic Air-Carrier Traffic Statistics for February 1941

Operator	Revenue miles flown		Revenue passengers carried		Revenue passenger-miles flown		Express pound-miles flown		Revenue passenger load factor (percent)	
	February 1941	Percent change over 1940	February 1941	Percent change over 1940	February 1941	Percent change over 1940	February 1941	Percent change over 1940	February 1941	February 1940
American Airlines, Inc.	2,050,532	33.43	63,514	63.96	22,366,395	47.94	165,803,977	36.96	60.51	60.59
Braniff Airways, Inc.	380,589	39.19	9,682	67.31	2,914,245	54.32	12,476,725	24.79	45.44	49.60
Catalina Air Transport, Inc.	4,740	21.54	784	26.66	23,520	26.66	278,310	30.20	48.10	46.06
Chicago & Southern Air Lines, Inc.	142,020	20.59	2,936	90.53	1,153,726	96.06	6,839,710	125.66	39.75	64.14
Continental Air Lines, Inc.	102,703	18.89	1,106	42.89	356,864	49.02	795,033	123.48	34.69	36.27
Delta Air Corporation	166,518	24.93	3,632	36.64	1,000,852	45.18	2,700,429	39.89	36.84	51.51
Eastern Air Lines, Inc.	1,517,859	30.35	36,967	54.12	18,375,490	35.94	94,816,387	28.84	61.32	61.92
Inland Air Lines, Inc.	81,287	19.34	811	57.48	201,325	51.94	270,322	50.21	24.79	19.47
Mid-Continent Airlines, Inc.	169,536	90.76	2,073	98.75	532,475	107.26	1,148,359	80.75	28.20	28.91
National Airlines, Inc.	133,245	97.06	3,676	93.88	944,904	121.33	1,916,892	466.33	55.19	63.14
Northeast Airlines, Inc.	95,012	71.53	2,312	79.92	368,808	81.26	625,163	174.81	38.79	36.71
Northwest Airlines, Inc.	432,983	3.97	6,961	19.32	2,705,063	21.76	23,692,503	60.75	31.14	27.42
Pennsylvania-Central Airlines Corporation	344,730	57.04	14,900	91.32	2,668,236	94.53	13,652,606	135.06	39.94	40.37
Transcontinental & Western Air, Inc.	1,303,762	45.63	20,439	56.17	9,530,006	53.79	97,338,941	105.47	45.08	42.27
United Air Lines Transport Corporation	1,662,139	20.72	24,061	26.45	11,131,584	18.44	190,304,252	44.24	47.10	50.17
Western Air Express Corporation	198,306	21.92	3,070	37.73	895,000	18.25	16,305,417	45.05	30.99	37.98
Total	8,785,961	31.67	196,924	55.25	75,168,393	41.74	628,665,026	48.83	50.64	51.36

Air Safety

C. A. B. Urges Propeller Caution

Bulletin Warns Pilots of Lurking Dangers: Pointers Listed

"When Propellers Kick, They Kick Hard" is the subject of a safety bulletin issued by the Civil Aeronautics Board. The bulletin discusses various causes of accidents of this nature during the past two years and lists pointers on swinging propellers. The bulletin follows:

WHEN PROPELLERS KICK, THEY KICK HARD

"So, Remember:

1. "A propeller rotating under power has at least 40 horses standing by, ready to kick you.
2. "100 percent of the propeller accidents during 1939-40 were avoidable.
3. "41 propeller accidents were reported during 1939-40 and all were serious or fatal.
4. "85 percent of the passengers injured by propellers during 1939-40 walked into revolving propellers after disembarking from flights; showing a need for

(See SAFETY, page 99)

Air Accidents In February

Thirteen fatal accidents, 11 of which were attributed to personnel failure, were reported for United States civil aviation during February 1941, according to the Civil Aeronautics Board.

While the monthly total includes a domestic scheduled air carrier accident on February 23 near Atlanta, Ga., the domestic carriers transported more than 180,000 revenue-passengers and flew about 9,000,000 revenue-miles during the month.

Again last month, passengers were fatally injured while riding with student pilots, although it is in direct violation of the Civil Air Regulations for student pilots to carry passengers. Two fatal crashes were recorded under this heading. Others occurred while fliers hunted coyotes, and practiced forced landings and tailspins.

Following is a tabulation showing the number of fatal accidents for February 1941 and 1940 and January 1941

and 1940, together with figures on the number of pilots for the respective periods:

AIRCRAFT AND PILOTS

(Continued from page 93)

Status of Certificated Aircraft and Pilots, by States, as of Jan. 1, 1941

State	Aircraft			Pilots								Glider pilots
	Certificated	Uncertificated	Total	Gliders	Air-line transport	Commercial	Limited commercial	Private	Solo	Total		
Alabama.....	119	1	120	2	0	88	2	562	9	661	0	0
Arkansas.....	103	1	104	0	0	38	1	389	23	451	0	0
California.....	1,753	93	1,846	43	176	1,368	60	6,061	620	8,285	12	1
Colorado.....	169	4	173	3	24	100	2	762	72	960	1	0
Connecticut.....	198	1	199	2	3	98	7	422	62	592	4	0
Delaware.....	89	0	89	0	0	27	4	167	7	205	0	0
District of Columbia.....	214	3	217	1	10	87	4	442	17	560	1	0
Florida.....	389	1	390	1	93	291	7	997	74	1,462	0	0
Georgia.....	241	4	245	3	60	165	2	793	52	1,072	0	0
Idaho.....	92	0	92	0	0	47	4	422	50	523	0	0
Illinois.....	992	9	1,001	15	174	482	26	2,000	261	3,033	10	0
Indiana.....	519	25	544	6	2	215	19	1,030	150	1,416	6	0
Iowa.....	381	8	389	1	5	141	10	1,025	80	1,261	0	0
Kansas.....	382	25	407	3	1	141	6	1,107	71	1,325	1	0
Kentucky.....	118	10	128	0	2	50	5	278	40	376	0	0
Louisiana.....	208	1	209	0	16	126	9	797	52	1,000	0	0
Maine.....	134	2	136	0	1	63	9	236	21	330	0	0
Maryland.....	220	8	228	3	3	100	8	616	31	758	1	0
Massachusetts.....	406	4	410	7	30	257	14	1,280	147	1,728	2	0
Michigan.....	723	23	746	25	29	297	28	1,089	165	2,208	23	0
Minnesota.....	401	41	442	2	53	195	20	744	41	1,053	1	0
Mississippi.....	116	5	121	0	1	57	0	396	14	468	0	0
Missouri.....	505	15	520	1	99	335	3	1,493	145	2,075	3	0
Montana.....	130	13	143	1	0	57	2	463	22	544	0	0
Nebraska.....	166	10	176	2	1	96	4	738	40	879	2	0
Nevada.....	50	1	51	0	0	15	2	147	10	174	0	0
New Hampshire.....	58	1	59	1	0	32	0	215	24	280	2	0
New Jersey.....	406	7	503	9	32	263	18	1,249	68	1,630	11	0
New Mexico.....	76	2	78	0	1	31	2	313	17	364	0	0
New York.....	1,323	16	1,339	14	242	894	47	3,411	269	4,863	31	0
North Carolina.....	352	14	366	0	0	114	12	534	97	757	1	0
North Dakota.....	102	15	117	0	0	44	3	332	6	385	0	0
Ohio.....	899	22	921	5	17	387	41	2,070	139	2,654	8	0
Oklahoma.....	362	6	368	1	1	233	10	1,155	49	1,448	0	0
Oregon.....	210	21	231	1	21	107	4	722	67	921	0	0
Pennsylvania.....	1,438	6	1,444	5	14	594	48	2,584	212	3,452	11	0
Rhode Island.....	135	0	135	0	1	33	3	162	10	209	1	0
South Carolina.....	160	2	162	0	1	33	4	543	26	627	0	0
South Dakota.....	87	4	91	0	1	43	1	385	12	442	0	0
Tennessee.....	226	3	229	6	18	146	5	905	12	1,086	0	0
Texas.....	980	43	1,023	0	155	661	13	2,865	224	3,918	1	0
Utah.....	81	1	82	2	33	54	0	442	16	545	0	0
Vermont.....	59	0	59	0	0	27	1	170	9	207	0	0
Virginia.....	269	2	271	1	18	164	11	797	28	1,018	1	0
Washington.....	296	7	303	7	42	229	10	1,299	129	1,709	3	0
West Virginia.....	146	1	147	0	1	76	11	586	47	721	0	0
Wisconsin.....	347	26	373	3	3	150	18	693	65	929	1	0
Wyoming.....	64	5	69	0	16	28	0	186	8	238	0	0
Alaska.....	149	2	151	0	2	94	1	75	12	184	0	0
Canada.....	1	0	1	0	6	15	0	21	2	44	0	0
Canal Zone.....	0	0	0	0	0	1	0	20	0	37	0	0
Hawaiian Islands.....	31	0	31	0	1	52	2	181	18	254	0	0
Mexico.....	11	0	11	0	0	2	0	6	0	8	0	0
Philippine Islands.....	70	0	70	0	0	10	0	10	1	21	0	0
Puerto Rico.....	21	0	21	0	0	9	0	35	1	45	0	0
Foreign, miscellaneous.....	5	0	5	0	22	56	1	32	4	115	0	0
Totals.....	17,351	518	17,869	176	1,431	9,616	535	47,673	3,858	63,113	138	0
Percent.....					2.3	15.2	0.8	75.6	6.1	100.0		

¹ Figures for these countries are for aircraft and pilots registered by the United States.

² Civil aircraft in the Philippine Islands are now registered with the local government.

³ Includes 47 certificated and 129 uncertificated gliders.

⁴ Estimated figures.

⁴ Includes 2,145 women pilots divided as follows: 113 commercial, 27 limited commercial, 1,803 private, and 202 solo.

⁵ The glider pilots include 2 women.

U-H-F

(Continued from page 93)

frequencies between 119,000 and 126,000 kilocycles, Colonel Connolly said:

"Utilization of ultra-high-frequency radio waves not only eliminates interruptions due to static interference inherent in the low frequencies, but assures uniformity of signal strength in the pilot's headphones. For instance, if the service radius of a given ultra-high-frequency station is 50 miles from the transmitter, service over the entire distance will be consistent and uninterrupted. Furthermore, ultra-high-frequencies do not 'bounce' when they hit the ionosphere¹ and cause long-distance night-time interference similar to present frequencies. These frequencies continue straight on away from the earth's surface and are never reflected. In view of this fact, they are not subject to fade-outs nor interference from the transmissions from other stations, also these frequencies are not subject to 'bending' or 'splitting' over mountainous terrain."

Another attractive feature of ultra-high-frequencies for airway use is the availability of a much greater number of frequencies, permitting the installation of as many stations as may be required, not only to take care of the existing airways, but those which may be established later. A band has been specifically set aside for this purpose by Presidential Executive order, after studies made by the Interdepartment Radio Advisory Committee.

"This static-free characteristic of the ultra-high-frequency waves alone is of tremendous importance to the future of aviation," said Colonel Connolly. "Everyone who is familiar with the ordinary radio set knows that static is most prevalent in bad weather, and it is just at that time that the pilot's need for dependable radio guidance is greatest."

"In planning the Federal system of ultra-high-frequency radio airway aids, first consideration has been given to those areas in which there is greatest congestion of radio-range stations and to those airways on which the greatest difficulty is now being experienced because of range course irregularities due to mountainous terrain. In most cases these two conditions coincide."

The need for radio-range frequencies in a band other than the one within which the Federal Airways system and several other Government services now operate has been recognized for some time. Because of unavoidable congestion, the band has long since reached the limit of its usefulness and the situation has become increasingly critical.

The new ranges are being established along the New York-Chicago airway, at the following points: Easton, Pa.; Sunbury, Pa.; Black Moshannon, Pa.; Millbrook, Pa.; Cleveland, Ohio; Toledo, Ohio; Millersburg, Ind.; and Chicago Heights, Ill.

¹ The ionosphere is a gaseous layer above the earth's surface which reflects or refracts radio waves.

Airways and Airports

The proposed radio range stations in the appropriation asked for are to equip the following routes: San Diego-Los Angeles-San Francisco-Seattle-Vancouver, Salt Lake City-Portland-Spokane

Air Navigation Facilities On April 1

Airports

(In order to simplify the following statistical tabulation of airports in the continental United States, the classification has been rearranged. Airports now are classified on an operation basis, whereas formerly they were classified on a servicing basis.)

For example, an airport operated by a municipality with no servicing available now is classified as a "municipal airport," whereas it formerly was listed as an "auxiliary airport." Thus, the "auxiliary" classification has been eliminated.)

Airports with servicing ¹	958
Airports with paved runways.....	276
Airports with two-way radio.....	368
Lighted airports ²	637
Airports by class:	
Municipal ³	1,080
Commercial ⁴	558
Private ⁵	159
Army ⁶	173
Navy ⁷	22
Misc. Gov't ⁸	38
CAA Int. Flds.....	289
Total	2,219

Seaplane Bases

Army, Navy, Coast Guard.....	30
Other seaplane bases and anchorages.....	297
Total	327
Seaplane bases having any night lighting equipment.....	30

Radio Aids

Ranges (6 in Alaska, 2 in Hawaii).....	285
Range stations simultaneous (6 in Alaska, 2 in Hawaii).....	191
Range stations nonsimultaneous.....	83
Range stations, no voice.....	11
Broadcast stations (9 in Alaska, 2 in Hawaii).....	116
Broadcast station simultaneous (6 in Alaska, 2 in Hawaii).....	113
Broadcast stations nonsimultaneous (all in Alaska).....	3
Marker stations.....	41
Fan markers.....	108
Voice (only) stations (7 in Alaska).....	14
Z markers (not at range stations).....	2

¹ Servicing: hanger, repairs, and fuel available.

² Lighted airport: boundary and beacon and/or flood lights.

³ Municipally operated, with or without servicing.

⁴ Commercially operated, with or without servicing.

⁵ Open to public in emergency only.

⁶ Army-operated, open to civilians in emergency only.

⁷ Navy-operated, open to civilians in emergency only.

⁸ Includes Coast Guard, U. S. Forest Service, etc.

Kansas City-Chicago, St. Louis-Chicago, Kansas City - St. Louis - Indianapolis, Dayton - Columbus - Pittsburgh - Philadelphia, Chicago - Cincinnati - Washington-New York, Cleveland-Washington, New York-Buffalo, New York-Boston, and Chicago-Detroit.

Final selection of the points for the radio landing systems will depend upon the result of a survey which will be undertaken immediately to determine whether the desired locations are actually suitable for such installation.

Colonel Connolly said that the construction program would get under way as soon as funds were made available by Congress.

More Airport Helpers Complete W. P. A. Course

Two additional classes comprising 14 trained airport ground servicemen graduated during the past two weeks from the schools being conducted by the W. P. A. First class to complete the course was at Congressional Airport, Rockville, Md., where 10 trainees graduated last month. The new graduates included eight at Byrd Airport, Richmond, Va., and six at Cur.iss-Wright Airport, Baltimore, Md.

The project, sponsored by the Advisory Commission for National Defense and cosponsored by the Civil Aeronautics Administration and the Office of Education, plans the training of 5,750 such airport ground servicemen throughout the nation. (A detailed description of the program appeared on page 88, Civil Aeronautics Journal, vol. 2, No. 7, dated April 1, 1941.)

Airport managers, fixed-base operators, and others who want further details concerning the type of training given or the availability of graduate trainees in their localities may obtain the desired information by addressing their requests to the Administrator of Civil Aeronautics, Washington, D. C.

SAFETY

(Continued from page 96)

constant supervision on the part of operating personnel. There is no excuse for negligence.

5. "Improper technique in swinging propellers during starting operations resulted in 36 percent of the propeller accidents during 1939-40.

ON SWINGING PROPELLERS—

"A Few Pointers:

"Hands should be about 22 inches (light airplanes) out from the hub. No more than the finger tips should be

(See Safety, page 99)

CIVIL AERONAUTICS BOARD

OFFICIAL ACTIONS

Abstracts of Opinions, Orders, and Regulations

FOR THE PERIOD MARCH 15-31, 1941

ORDERS

ORDER No. 943: *Consolidated applications for hearing.*

The Board on March 17 consolidated the application of Pacific Alaska Airways, Inc., for approval of the purchase of certain property and rights and the application of Alaska Air Lines, Inc., for approval of the merger and consolidation of certain properties, with the applications of Star Air Lines, Inc., Alaska Air Lines, Inc., and Pacific Alaska Airways, Inc., for certificates of public convenience and necessity.

ORDER No. 944: *Denied petition of Pollack Flying Service to intervene in application of Pacific Alaska Airways.*

The Board on March 17 denied petition of Pollack Flying Service to intervene in the matter of the application of Pacific Alaska Airways, Inc., for approval of the purchase of certain property and rights of Wm. L. Lavery, doing business as Lavery Airways.

ORDER No. 945: *Student pilot certificate of Charles Boring revoked.*

The Board on March 18 revoked student pilot certificate No. S-144148, held by Charles Doak Boring, Magnolia, Ark., for piloting an aircraft carrying a passenger other than a certificated instructor, and other violations of the Civil Air Regulations.

ORDER No. 946: *Student pilot certificate of Alf Fagerstrom suspended for 90 days.*

The Board on March 18 suspended for a period of 90 days student pilot certificate No. 160116, held by Alf Fagerstrom, Rockford, Ill., for piloting an aircraft outside an area in the vicinity of the operating base of his instructor when he had not been certified as competent to make such flight, in violation of the Civil Air Regulations.

ORDER No. 947: *Approved resolution relating to the handling of literature through agents.*

The Board on March 18 approved a resolution of the Air Traffic Conference of America (Contract C. A. B. No. 176) relating to the handling of literature through agents.

ORDER No. 948: *Approved resolution relating to publicizing of safety and navigational devices.*

The Board on March 18 approved a resolution of the Air Traffic Conference of America (Contract C. A. B. No. 177) relating to publicizing of safety and navigational devices.

ORDER No. 949: *Approved agreement relating to leasing of two Douglas DC-3 aircraft.*

The Board on March 18 approved an agreement between American Airlines, Inc., and Eastern Air Lines, Inc. (Contract C. A. B. No. 179) relating to the leasing of two Douglas DC-3 aircraft.

ORDER No. 950: *Chicago & Southern granted permission to intervene in application of Eastern.*

The Board on March 18 granted Chicago & Southern Air Lines, Inc., permission to intervene in the application of Eastern Air Lines, Inc., for authority to operate non-stop service on Route No. 5 between Birmingham, Ala., and New Orleans, La.

Notice

Attention of aircraft mechanics is called to Section 60.32 of Part 60 of the Civil Air Regulations. This section pertains to "identification marks" for aircraft, information which previously was included in Part 02 of the CAR.

The new Part 02 covers "type and production certificates," knowledge of which is not required in order to pass a mechanics' test.

ORDER No. 951: *Dismissed order directing John O'Connor to appear before an examiner.*

The Board on March 18 dismissed the order of the Board directing John W. O'Connor, Lincoln, Nebr., to appear before an examiner of the Board and show cause why his student pilot certificate should not be revoked or suspended. (Opinion and order.)

ORDER No. 952: *Pan American temporarily exempted from provisions of section 401 (a) of the Civil Aeronautics Act.*

The Board on March 18 temporarily exempted Pan American Airways Co. (Del.) from the provisions of section 401 (a) of the Civil Aeronautics Act, as amended, insofar as these provisions would otherwise prevent a stop at Belem, Brazil, for the purpose of refueling only, on its trip No. 280 en route between Lisbon and New York.

ORDER No. 953: *Granted applications of United and Penn-Central for amendments to their certificates of convenience and necessity.*

The Board on March 19 granted applications of United Air Lines Transport Corp. and Pennsylvania-Central Airlines Corp. for amendments to their certificates of public convenience and necessity for routes Nos. 1 and 14 respectively, so as to authorize Youngstown, Ohio, as an intermediate point. (Opinion and order—Dockets 260 and 449.)

ORDER No. 954: *Authorized certain air carriers to grant free transportation to persons appointed to investigate accidents in air transportation.*

The Board on March 20 authorized certain air carriers to grant, without compliance with the provisions of section 403 of the Civil Aeronautics Act, free transportation for such interstate air transportation as is necessary, to the members, the clerk and any investigators of the committees appointed by the House and Senate to investigate accidents in air transportation.

ORDER No. 955: *Terminated investigation to determine adequacy of air transportation service to and from New York and Newark.*

The Board on March 21 terminated an investigation instituted (Order, Serial No. 273) to determine the adequacy of the air transportation service rendered to and from New York, N. Y., and Newark, N. J.

ORDER No. 956: *Terminated investigation to determine whether service operated by Canadian Colonial between New York and Niagara Falls was in violation of Civil Aeronautics Act.*

The Board on March 21 terminated an investigation instituted (Order, Serial No. 633) to determine whether the service operated by Canadian Colonial Airways, Inc., between New York,

N. Y., and Niagara Falls, N. Y., was in violation of the provisions of the Civil Aeronautics Act.

ORDER No. 957: *Amended order instituting proceeding for determining rates of compensation for transportation of mail by Delta.*

The Board on March 21 amended the order (Order, Serial No. 280) instituting a proceeding for fixing and determining fair and reasonable rates of compensation for the transportation of mail by Delta Air Corp. so as to include Route No. 24, as amended, and Route No. 54.

ORDER No. 958: *Approved resolution relating to payment of passengers' meals while on trains.*

The Board on March 21 approved a resolution of the Air Traffic Conference of America (Contract C. A. B. No. 124) relating to payment of passengers' meals while on trains.

ORDER No. 959: *Trans-Canada granted permission to navigate Canadian-registered aircraft over territory of United States.*

The Board on March 21 granted Trans-Canada Air Lines permission to navigate Canadian-registered aircraft over the territory of the United States on familiarization flights between Toronto, Canada, and New York, N. Y., subject to certain terms and conditions.

ORDER No. 960: *Consolidated application of TWA and United.*

The Board on March 25 consolidated, for the purpose of hearing, the applications of Transcontinental & Western Air, Inc., and United Air Lines Transport Corp. for amendments to their certificates of public convenience and necessity for routes Nos. 36 and 1, respectively, so as to include South Bend, Ind., as an intermediate point.

ORDER No. 961: *Pan American granted permission to intervene in application of National Airlines.*

The Board on March 25 granted Pan American Airways, Inc., permission to intervene in the application of National Airlines, Inc., for a certificate of public convenience and necessity authorizing air transportation between Tampa, Fla., and Havana, Cuba, via Key West, Fla.

ORDER No. 962: *Eastern granted permission to intervene in application of National Airlines.*

The Board on March 25 granted Eastern Air Lines, Inc., permission to intervene in the application of National Airlines, Inc., for a certificate of public convenience and necessity authorizing air transportation between Tampa, Fla., and Havana, Cuba, via Key West, Fla.

ORDER No. 963: *Re taking of testimony by deposition in matter of airline transport pilot certificate.*

The Board on March 25 authorized the taking of testimony by deposition

in the matter of the hearing called to determine whether the airline transport pilot certificate No. 12166, held by Herbert W. Susott, should be suspended or revoked.

ORDER No. 964: *Pan American temporarily exempted from provisions of section 401 (a) of the Civil Aeronautics Act.*

The Board on March 24 temporarily exempted Pan American Airways Co. (Del.) from the provisions of section 401 (a) of the Civil Aeronautics Act, as amended, insofar as said provisions would otherwise prevent a stop at Belem, Brazil, for the purpose of refueling only, on westbound trip No. 282, leaving Lisbon, Portugal, March 25.

ORDER No. 965: *Pan American temporarily exempted from provisions of 401 (a) of the Civil Aeronautics Act.*

The Board on March 27 temporarily exempted Pan American Airways Co. (Del.) from the provisions of section 401 (a) of the Civil Aeronautics Act of 1938, as amended, in so far as said provisions would otherwise prevent a stop at Belem, Brazil, for the purpose of refueling only, on its westbound transatlantic trip leaving Lisbon, Portugal, on March 28, 1941.

ORDER No. 966: *Amended order authorizing temporary suspension of service by Mayflower.*

The Board on March 28 amended the order of the Board (No. 758) so as to extend to June 15, 1941, the temporary suspension period of service authorized by the certificate of convenience and necessity issued to Mayflower Airlines, Inc.

ORDER No. 967: *Penn-Central permitted to inaugurate nonstop service.*

The Board on March 28 granted Pennsylvania-Central Airlines Corporation permission to inaugurate nonstop service beginning April 1, 1941, between Detroit, Mich., and Washington, D. C., on route No. 14, and between Pittsburgh, Pa., and Knoxville, Tenn., and Knoxville, Tenn., and Birmingham, Ala., on route No. 55.

ORDER No. 968: *TWA permitted to inaugurate nonstop service.*

The Board on March 28 granted Transcontinental and Western Air, Inc., permission to inaugurate nonstop service beginning April 1, 1941, between Albuquerque, N. Mex., and Wichita, Kans., on route No. 2.

ORDER No. 969: *Approved agreement of Chicago & Southern and American fixing flying time between common points.*

The Board on March 28 approved an agreement (Contract C. A. B. No. 138) between Chicago & Southern Air Lines, Inc., and American Airlines, Inc., fixing the flying time between common points.

ORDER No. 970: *Order directing Edna Kidd to show cause revoked.*

The Board on March 29 dismissed order (No. 669) directing Edna Gardner Kidd to show cause why her commercial pilot certificate should not be revoked in whole or in part or further suspended.

REGULATIONS

REGULATION No. 152: *The Board on February 21 adopted Amendment No. 104 of the Civil Air Regulations, "Removing Certain Restrictions on Issuance of Foreign Flight Authorizations." The text of the amendment, which makes changes in Section 60.940 of Part 60 of the C. A. R., follows:*

"Effective February 21, 1941, section 60.940 of the Civil Air Regulations is amended by striking subsection 4 thereof and renumbering subsections 5, 6 and 7 to read 4, 5 and 6, respectively."

SAFETY

(Continued from page 97)

over the trailing edge of the blade (It's a good idea to remove any finger rings before starting). Stance: arm-length from the hub. In swinging the propeller the right leg is swung to the left, placing the weight on the left foot; then the right leg is swung downward, in the follow-through; the force of this movement tends to rotate the blades so that little arm effort is required."

PROPELLERS WERE MADE TO LIFT WINGS; NOT MORTALITY RATES!!!

Safety Bulletin

Small but important

Like a Lilliputian grounding a Gulliver, a pin-hole vent in a gasoline tank cap, if improperly handled, can ground your airplane.

As gas flows out of a tank the space it previously occupied is filled with air which enters through the vent. If this vent is closed the air cannot enter and a partial vacuum forms, stops the flow of gas, and results in irregular engine operation or failure.

The underlying cause of an accident in which a passenger was seriously injured and the airplane badly damaged was improperly placed vents.

1. Grease on a mechanic's hand may plug an air vent and cause an engine failure. In any servicing, overhaul, or repair work be sure that your tank cap is handled with care so that the vent always remains clean and open.

2. Tubular type vents, if faced backwards, are likely to cause a negative rather than a positive pressure inside your gas tank. Face tubular vents forward.

Status of Parts of the Civil Air Regulations and Amendments

As of April 15, 1941

All persons affected by the Civil Air Regulations, including those preparing for examinations for certificates, may obtain required Parts of the Regulations from the Publications and Statistics Division, Civil Aeronautics Administration, Washington, D. C., without charge.

ONLY PARTS NEEDED SUPPLIED FREE

For example, *pilots* are governed in general by Parts 01., 20., 60., and 98; *aircraft mechanics* by Parts 01., 04., 15., 18., 24., and Section 60.32; and *aircraft engine mechanics* by Parts 01., 04., 13., 14., 18., 24. and 98. It should be remembered that individuals are entitled to receive free of charge only those portions of the C. A. R. which directly govern the activity in which they are engaged.

HOW TO OBTAIN PARTS, AMENDMENTS, AND MANUALS

Those persons not affected by the C. A. R., but desiring all or any part of the Regulations for other purposes, may

obtain them as follows: Those Parts on which a price is listed in the tabulation below are on sale by the Superintendent of Documents, U. S. Government Printing Office (shown as G. P. O. in table), Washington, D. C., and are not available for free distribution except as stated in the first paragraph.

Eventually, all Parts will be placed on sale; meanwhile, Parts not yet on sale (carrying remark in tabulation below "order from C. A. A. only") may be obtained without charge from the C. A. A. upon demonstration of valid interest on the applicant's part.

All amendments to the Civil Air Regulations, and notice of new Parts, are printed in the Official Actions section of the Civil Aeronautics Journal, as released.

The tabulation below carries in the right-hand column the numbers of all effective amendments to each Part issued subsequent to its publication. Parts ordered from C. A. A. include all

effective amendments, but when Parts are purchased from G. P. O. amendments must be requested separately from C. A. A.

Civil Aeronautics Manuals supplementing certain Parts with detailed interpretations of their respective provisions are issued. They are numbered the same as the Parts they supplement, and those Parts accompanied by Manuals carry appropriate notations. All Manuals are obtained from C. A. A. only.

PARTS CANCELLED AND UNASSIGNED

Cancelled Parts 00. and 03. now incorporated in Part 01.; cancelled Part 23. now incorporated in Part 51.; and cancelled Part 25. now incorporated in Part 24. Parts 90.-96., inclusive, cancelled. All other Part numbers not shown are unassigned.

Bound volumes of the complete Civil Air Regulations are no longer available. Parts and amendments are punched for filing in loose-leaf binders.

PART No.	TITLE	DATE	REMARKS	PRICE	EFFECTIVE AMENDMENTS
AIRCRAFT					
01	Aircraft Registration and Airworthiness Certificates.	7-15-40	In stock at C. A. A. and on sale at G. P. O.	\$0.05	68, 75, 92 Administrator's Amend. No. 1, 105.
02	Type and Production Certificates.	7-15-40	In stock at C. A. A. and on sale at G. P. O.	.05	75.
04	Airplane Airworthiness (Manual 04, 7-1-38.)	5-31-38	Out of stock; to be available soon at C. A. A. and on sale at G. P. O.		601-A-1, 5, 14, 26, 28, 48, 56, 75, 85, 98.
13	Aircraft Engine Airworthiness (Manual not issued).	11-15-40	In stock; order from C. A. A. only.		
14	Aircraft Propeller Airworthiness (Manual 14, 12-1-38).	11-15-40	In stock; order from C. A. A. only.		
15	Aircraft Equipment Airworthiness (Manual 15, 7-1-38).	11-15-40	In stock; order from C. A. A. only.		
16	Aircraft Radio Equipment Airworthiness (Manual not issued).	2-13-41	In stock at C. A. A. and on sale at G. P. O.	.05	
18	Repair and Alteration of Aircraft (Manual 18, no date).	11-15-40	In stock; order from C. A. A. only.		105.
AIRMEN					
20	Pilot Certificates.	5- 1-40	In stock at C. A. A. and on sale at G. P. O.	.05	54, 63, 65, 67, 75, 82, 83, 87, 88, 99, 101.
21	Airline Transport Pilot Rating.	11-15-40	In stock; order from C. A. A. only.		87, 101.
24	Mechanic Certificates.	5- 1-40	In stock at C. A. A. and on sale at G. P. O.	.05	44, 61, 73, 75, 87.
26	Air-Traffic Control-Tower Operator Certificates.	10-4-40	In stock at C. A. A. and on sale at G. P. O.	.05	87.
27	Aircraft Dispatcher Certificates.	7-15-40	In stock at C. A. A. and on sale at G. P. O.	.05	74, 75, 87.
AIR CARRIERS					
40	Air Carrier Operating Certification (Interstate)....	11-1-40	In stock at C. A. A. and on sale at G. P. O.	.05	85, 89, 102.
AIR AGENCIES					
50	Flying School Rating (Manual 50, 12-40)	11-1-40	In stock at C. A. A. and on sale at G. P. O.	.05	87.
51	Ground Instructor Rating.	5-1-40	In stock at C. A. A. and on sale at G. P. O.	.05	75, 87.
52	Repair Station Rating (Manual 52, 2-41)	5-1-40	In stock at C. A. A. and on sale at G. P. O.	.05	75, 84, 87.
53	Mechanic School Rating (Manual 53, 5-40)	9-15-40	In stock at C. A. A. and on sale at G. P. O.	.05	75, 87.
AIR NAVIGATION					
60	Air Traffic Rules (Manual 60; Part 1, 12-1-40; Part 2, 8-1-40; Part 3, 12-1-40)	10-4-40	In stock at C. A. A. and on sale at G. P. O.	.10	76, 77, 80, 86, 90, 93, 95, 96, 102, 104.
61	Scheduled Air Carrier Rules (Interstate)	1-1-41	In stock; at C. A. A. and on sale at G. P. O.	.05	91, 94, [†] 97, 100, 102, 103.
MISCELLANEOUS					
98	Definitions	11-15-40	In stock; order from C. A. A. only.		
99	Mode of Citation of Regulation.	11-15-40	In stock; order from C. A. A. only.		

[†] Effective 5-1-41.

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